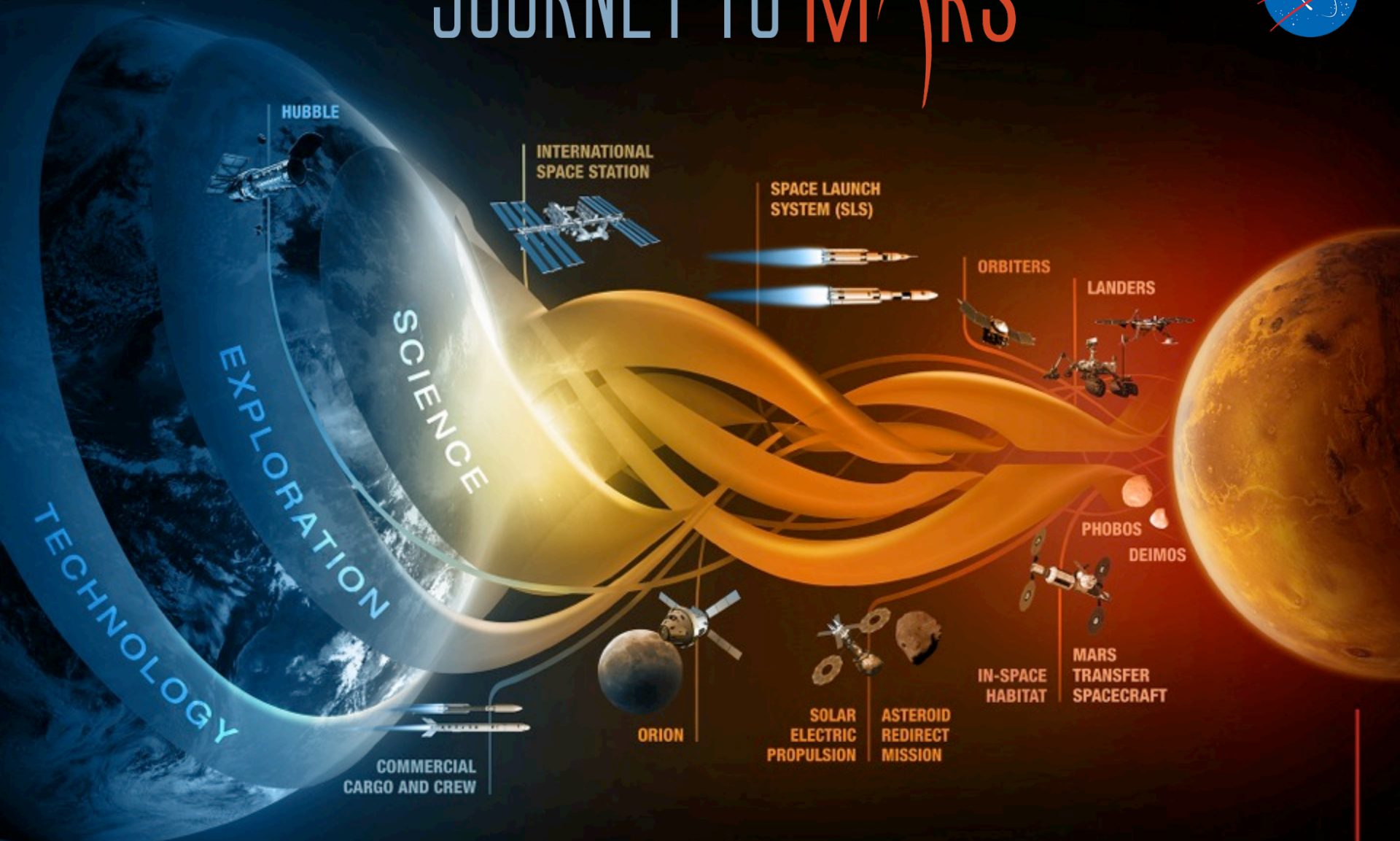




Small Business Innovation Research Small Business Technology Transfer

Glenn Research Center Technology Day
May 24, 2016

JOURNEY TO MARS



HUBBLE

INTERNATIONAL
SPACE STATION

SPACE LAUNCH
SYSTEM (SLS)

ORBITERS

LANDERS

SCIENCE

EXPLORATION

TECHNOLOGY

COMMERCIAL
CARGO AND CREW

ORION

SOLAR
ELECTRIC
PROPULSION

ASTEROID
REDIRECT
MISSION

IN-SPACE
HABITAT

MARS
TRANSFER
SPACECRAFT

PHOBOS

DEIMOS

MISSIONS: 6-12 MONTHS
RETURN: HOURS

EARTH RELIANT

MISSIONS: 1 TO 12 MONTHS
RETURN: DAYS

PROVING GROUND

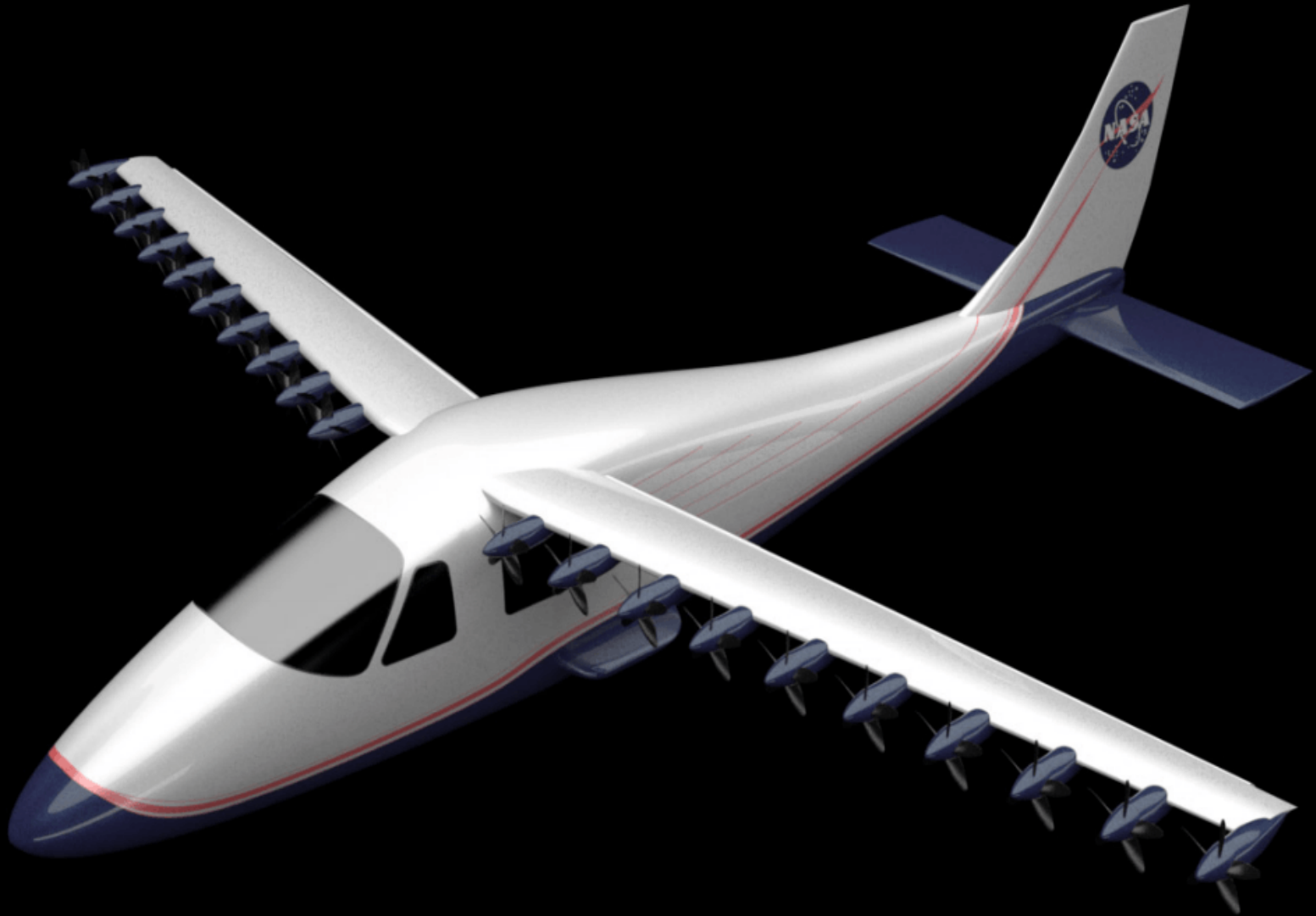
MISSIONS: 2 TO 3 YEARS
RETURN: MONTHS

EARTH INDEPENDENT

Starts Here on Earth



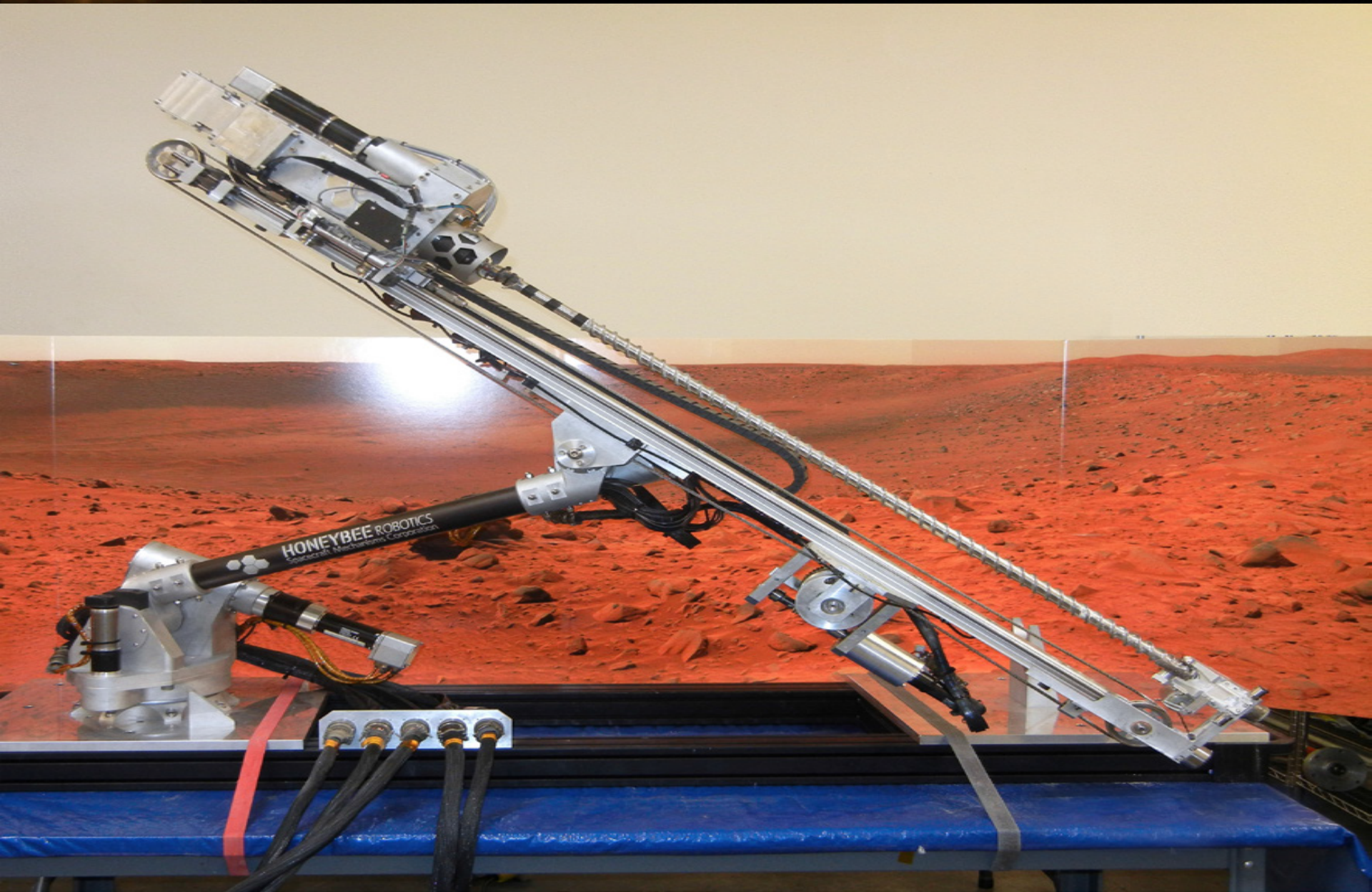
SBIR Supports Electric Propulsion Research



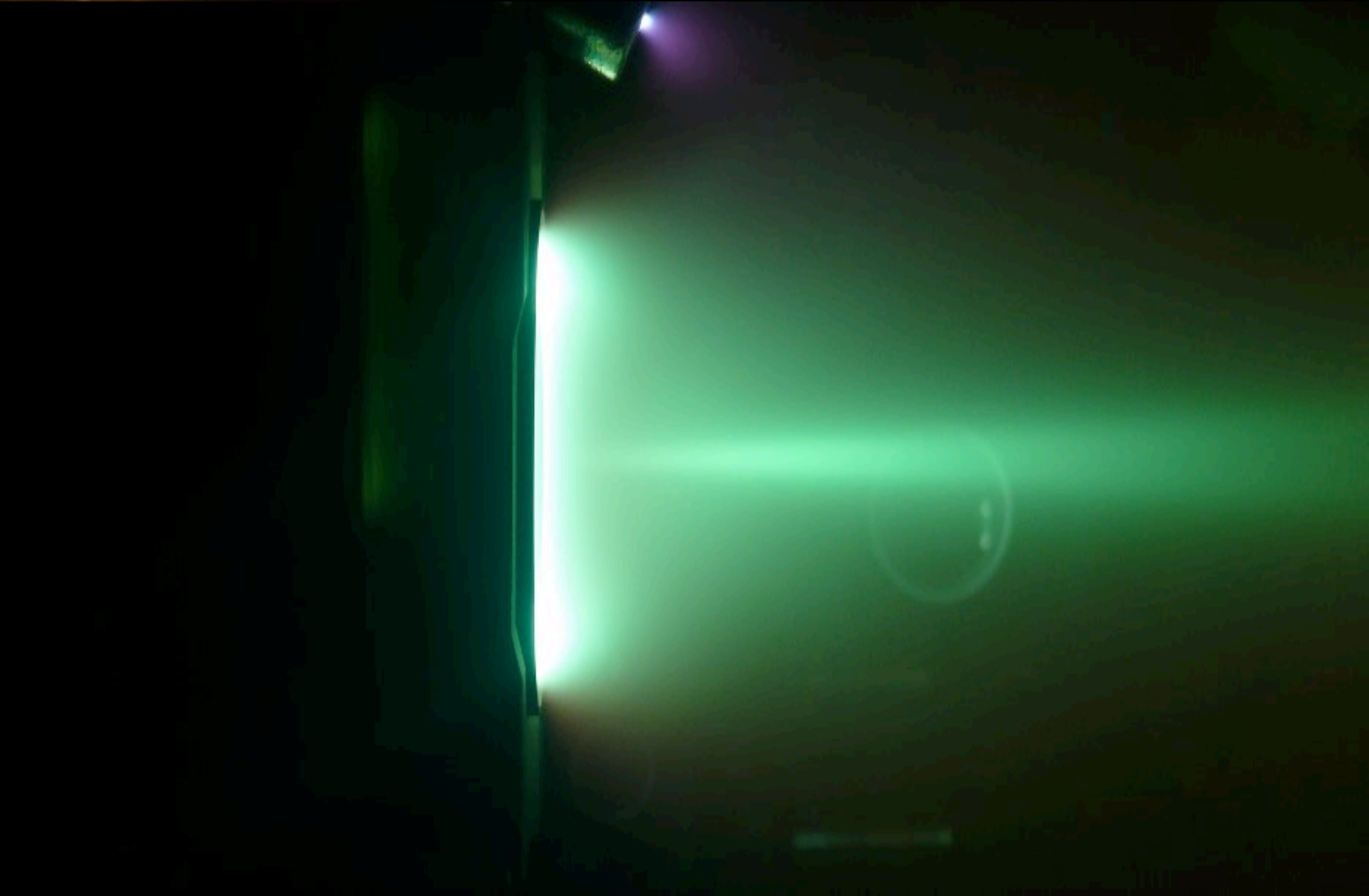
SBIR on the ISS



SBIR Drills on Mars



SBIR Supports Interplanetary Travel



Overview



- Every technology development investment dollar is critical to the ultimate success of NASA's mission
- Ultimate objective is to achieve infusion of critical technologies into NASA
- Mission Directorates establish high priority needs and existing gaps
- NASA Centers are home to NASA's development projects, research facilities, and Subject Matter Experts and therefore play a critical role

Participating Federal Agencies



SBIR + STTR Programs



Department of
Defense (DoD)



Department of
Health and Human
Services (HHS)



Department of
Energy (DoE)



National Aeronautics
and Space
Administration (NASA)



National Science
Foundation (NSF)

SBIR Program only:



Department of
Agriculture
(USDA)



Department of
Education (DoEd)



Department of
Transportation (DoT)



Environmental
Protection
Agency (EPA)



Department of
Homeland Security
(DHS)



Department of
Commerce
(DoC)



Eligibility Requirements

Small Business Innovation Research (SBIR)

- 1 Organized for-profit U.S. business
- 2 At least 51% U.S. owned by individuals and independently operated
- 3 500 or fewer employees
- 4 PI's primary employment with small business during project
- 5 Intellectual Property Agreement

Small Business Technology Transfer (STTR)

- 1 Formal Cooperative R&D Effort with a U.S. Research Institution
- 2 Minimum 40% by small business, 30% by U.S. Research Institution
- 3 Small business is Prime, PI can be from SBC or Research Institution
- 4 Other SBIR Requirements Apply

Structure of the Programs



Phase I: **Concept**

- Award Guideline: \$125K
- Duration: 6 months (SBIR)
12 months (STTR)



Phase II: **Full Research, R&D to Prototype**

- Award Guideline: \$750K
- Duration: 24 months
 - Phase II-E



Phase III: **Commercialization/Infusion**

- Non-SBIR/STTR funds
 - Contract from NASA program, other agency, prime contractor

Solicitation Development



ESTABLISH SBIR TOPICS

NASA Mission Directorates review Topic descriptions from previous solicitations, alert Topic Managers to new solicitation, and request input for new solicitation.

DEVELOP & SUBMIT SUBTOPIC NOMINATIONS

Mission Directorates work with Topic Managers to solicit revisions of previous Subtopics and submissions of new Subtopics, using Subtopic Nomination Forms.

HOLD SBIR ADVISORY COMMITTEE MEETINGS

Each Mission Directorate convenes an Advisory Committee to review potential Subtopics. Topic Managers present Topics and Subtopics by order of initial rank, advocate submissions to Committee, and provide requested follow-up information.

PERFORM MISSION DIRECTORATE INTEGRATION AND RANKING

Advisory Committees, along with Mission Directorates, consider all submissions, analyze group feedback, and determine final ranking based on Mission Directorate objectives, priorities, and program goals.

COMPLETE SUBTOPIC CONTENT AND RELEASE SOLICITATION

Subtopic Managers enter Subtopics into Electronic Handbook (EHB). Reviewers perform quality checks on information. Mission Directorates and NASA SBIR Program Management Office perform final review and assessment. NASA issues solicitation for proposals via NASA SBIR/STTR website: <http://sbir.nasa.gov/>

FY16: Fourth
Quarter

November 2016

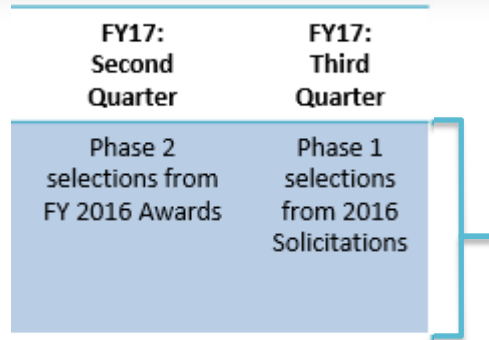
With Mission
Directorates and
Centers- define
Subtopics for
annual
Solicitations

Release annual
SBIR and STTR
Solicitations

Examples of Topics from the 2016 Solicitations include:

- Integrated Flight Systems
- Space Transportation
- Autonomous and Robotic Systems
- Sensors, Detectors and Instruments
- Information Technologies

Review & Selection Process



Proposals are evaluated on these factors:

1. Scientific/Technical Merit and Feasibility
2. Experience, Qualifications and Facilities
3. Effectiveness of the Proposed Work Plan
4. Commercial Potential and Feasibility
5. Price Reasonableness



NASA SBIR/STTR Budget

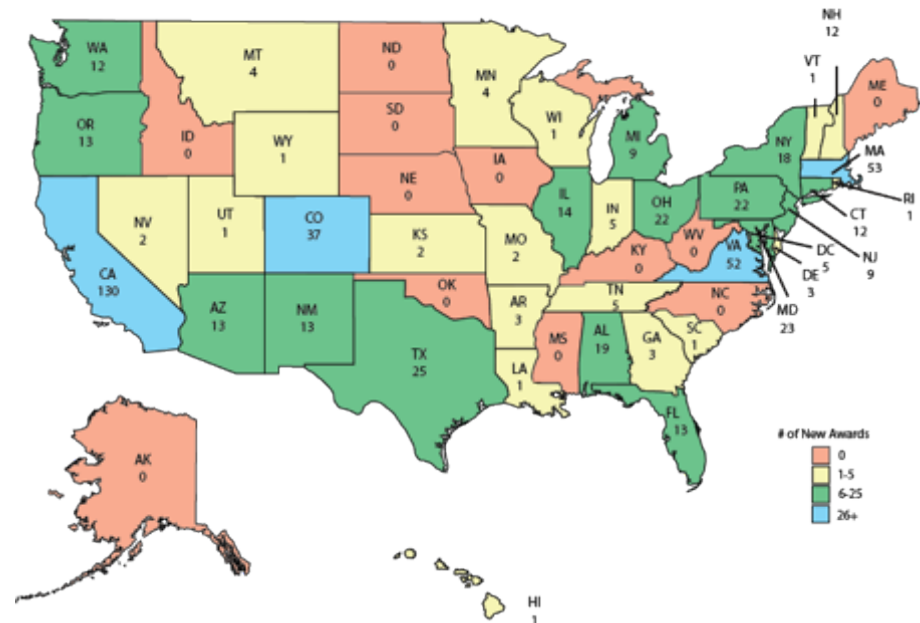


Fiscal Year 2015 SBIR/STTR Awards (Phase I, II, & II-E)

Annual Award Budget FY16:

SBIR & STTR: ~\$185M

- SBIR is 3.0% of R&D in FY16 In FY17, NASA will increase the SBIR investment to 3.2%
- STTR is .45% of R&D in FY16



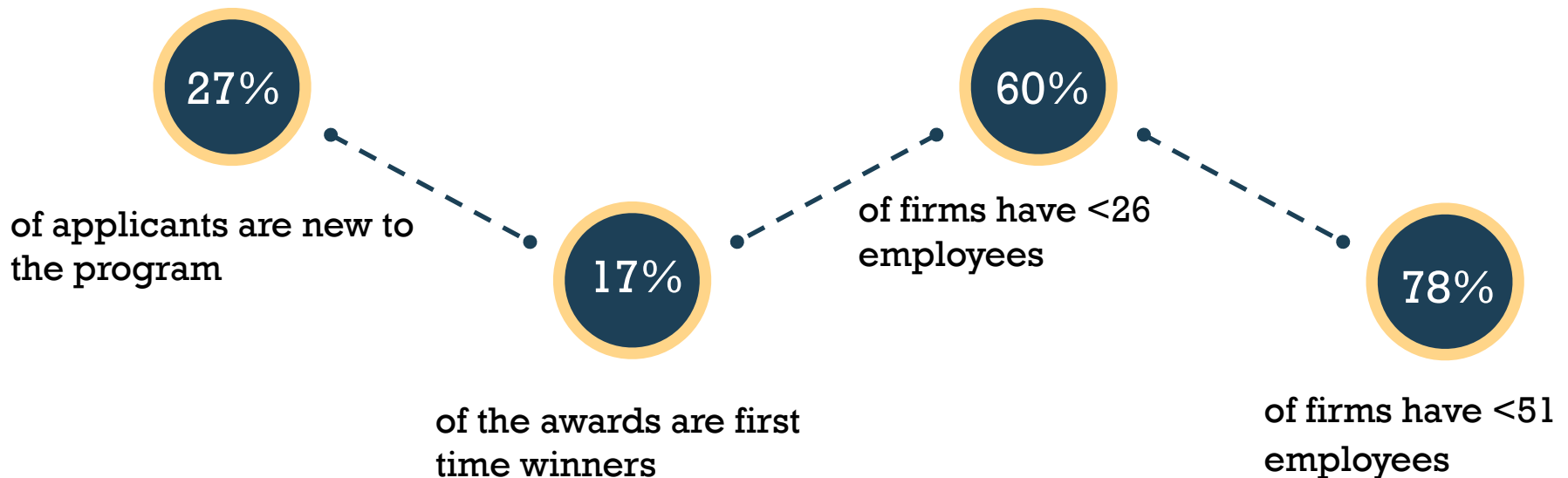
Past Glance of FY 15 Awards:

- SBIR Awards: 325 Phase I and 119 Phase II; 7 Phase I Selects and 10 Phase II Selects
- STTR Awards: 50 Phase I and 21 Phase II
- Phase II-E Awards: 31 SBIR/STTR Phase II-Es were awarded, leveraging \$5.36 M funds from non-SBIR sources



Participating Firms

FY 15 Phase I SBIR/STTR Awards



SBIR/STTR Homepage



The screenshot shows the SBIR/STTR homepage. At the top is the NASA logo and the text "SBIR/STTR Small Business Innovation Research / Small Business Technology Transfer". Below this is a navigation bar with links: HOME, ABOUT SBIR/STTR, SOLICITATIONS, SCHEDULE & AWARDS, HANDBOOKS, MULTIMEDIA, and CONTACT US. A search bar is located on the right. On the left side, there is a vertical menu with links: UPCOMING EVENT, TECHNOLOGIES, IN THE NEWS, RESEARCH OPPORTUNITIES (highlighted in orange), and FRAUD, WASTE & ABUSE. The main content area features a large image of a Star Wars spaceship flying over a planet. Below this image is a section titled "In the News" with the headline "NASA and Star Wars: The Connections Are Strong in This One" and a "Read More" button. At the bottom, there are three columns of links. The first column, titled "Proposers", lists links for SBIR/STTR Basics, SBIR/STTR Schedule, Participation Guide, SBIR/STTR Firms Library, Model Contract, Training Resources, and FAQs. The second column, titled "Awardees", lists links for SBIR/STTR Schedule, SBIR/STTR Firms Library, Additional Sources of Assistance, Awardee Firm's EHB, Training Resources, and FAQs. The third column, titled "Demographics Data", lists links for State-based Statistics, Award Search, and FY 2012 Economic Impact Report. Three callout boxes with arrows point to specific parts of the page: one points to the "SOLICITATIONS" link in the navigation bar, another points to the "Proposers" column, and a third points to the "Demographics Data" column.


Access the PY 2016 Solicitations
(Next release date *November 2017)

Information for NEW firms available under "Proposers"

SBIR/STTR program analytics

Program Schedule and Selection Announcements





SBIR · STTR
 America's Seed Fund™
POWERED BY NASA

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Program Schedule and Selection Announcements

Rows with a light blue background indicate an open Solicitation

Program Solicitation	Open Date	Close Date	Selection Announcement Date
NASA STTR 2015 Phase II Proposal Period only STTR 2015 Phase I awardees eligible to apply	May 06, 2016	Jun 17, 2016	Aug 24, 2016*
NASA SBIR 2016 Phase I Solicitation	Nov 12, 2015	Feb 01, 2016	Apr 28, 2016*
NASA STTR 2016 Phase I Solicitation	Nov 12, 2015	Feb 01, 2016	Apr 28, 2016*
NASA SBIR 2015 Phase II Proposal Period only SBIR 2015 Phase I awardees eligible to apply	Nov 05, 2015	Dec 17, 2015	Mar 15, 2016*
NASA SBIR Select 2015 Phase II Proposal Period only SBIR Select 2015 Phase I awardees eligible to apply	Nov 05, 2015	Dec 17, 2015	Mar 15, 2016*
NASA SBIR 2015 Phase I Solicitation	Nov 14, 2014	Jan 28, 2015	Apr 30, 2015
NASA SBIR Select 2015 Phase I Solicitation	Nov 14, 2014	Jan 28, 2015	Apr 30, 2015
NASA STTR 2015 Phase I Solicitation	Nov 14, 2014	Jan 28, 2015	Apr 30, 2015

* Dates are scheduled but are subject to revision

The background of the entire image is a dramatic, artistic rendering of a Martian landscape. A bright sun is low on the horizon, creating a massive, colorful glow in shades of orange, yellow, and red. The sky is filled with wispy clouds. In the foreground, a dark, rocky ridge runs across the frame. On top of this ridge, several Mars rovers are parked, and a lone figure in a spacesuit stands to the right. The scene is backlit by the sun, creating a silhouette effect on the vehicles and the person. The overall mood is one of exploration and discovery.

THE EVOLUTION OF A MARTIAN

Contact Information



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For more information, go to: www.sbir.nasa.gov